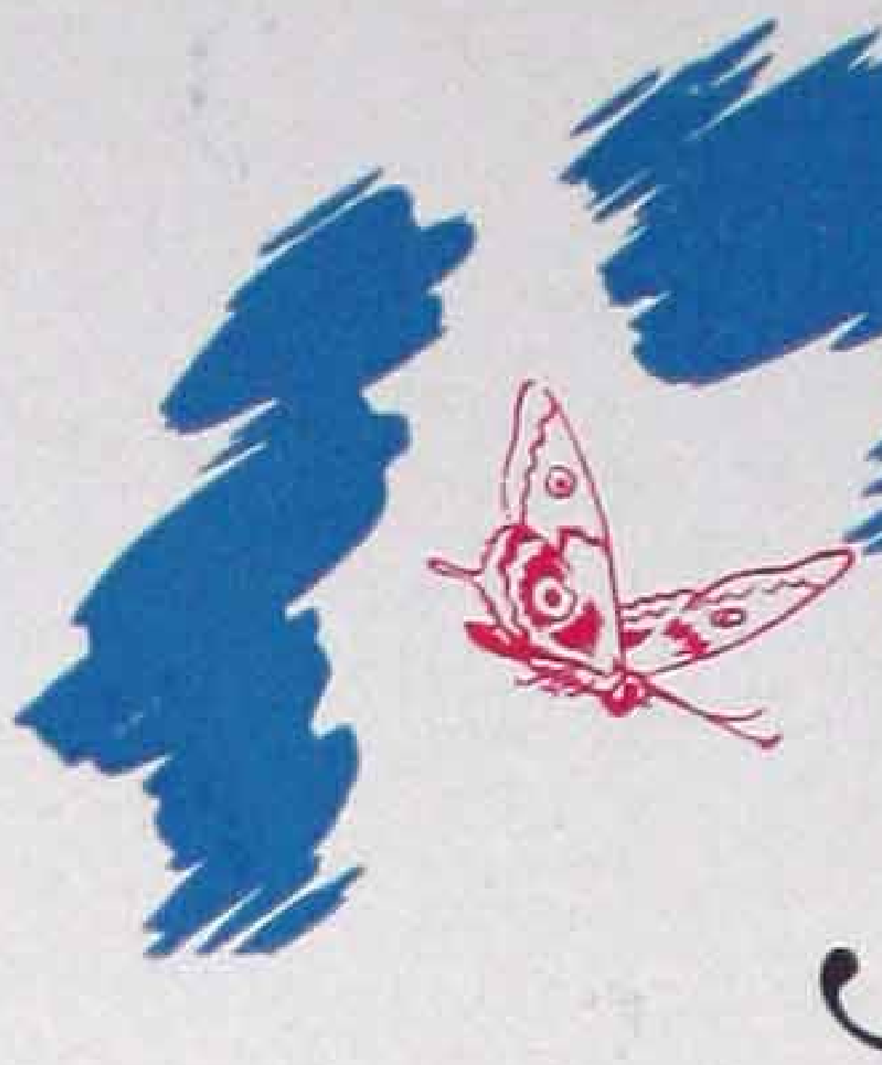
886-11

Welcoming Warmth

IN THE HOME

FRANKLIN INSTITUTE



Mellow Warmth

AS GENTLE AS SPRING SUNSHINE

Iron Fireman warmth is gentle and mellow like a day in June.

Let us show you how the Iron Fireman Anthracite Coal Burner can bring you a better kind of heating for less money.

By *better* we mean more uniform, more mellow, and more permeating; we mean safer and cleaner too, for reasons which are explained later. And when we say *for less money* we mean just exactly that.

For, coal is the cheapest source of heat units, and the sizes of coal which Iron Fireman uses are the lowest priced of all. Coal is our permanent fuel supply. ''We can probably use coal at our present rate for one thousand years or so,'' said Thomas A. Edison, ''without any danger of exhausting our supply.'' There are many kinds of coal, and several good coal dealers in each community. Unlike other fuels, coal is sold competitively. You can buy the kind of coal you wish from whoever you wish at the price you want to pay. It is not controlled by a monopoly or by large non-competitive organizations. Thus, from an economic standpoint, coal is the most desirable fuel. But, the very nature of coal as a fuel is perhaps its most attractive feature. Of course nothing burns but gas, and whether you buy gas already made, or make it out of oil, or whether you make it out of coal, it is all pretty much the same by the time combustion takes place and it is converted into useful heat. The Iron Fireman coal burner is really a little private gas plant. You make your own gas out of small sizes of coal. You make it as you burn it. The fire itself is the final stage in the making of this gas. Unlike ready made gas, it does not turn full on and become suddenly blazing hot, nor turn full off and leave the furnace or boiler to go stone cold. The automatic control instruments which operate Iron Fireman keep the fire going just as it is needed. When they shut it off, the fire goes down gradually, and long before it has died down far enough to stop giving off its heat, the controls turn it on again and gently increase the temperature of the rooms. This gentle method of giving off heat makes a big difference in the kind of heating you get in your living rooms. It prevents *cold 70* or stratified heating which is caused by the *pop-on, pop-off* type of firing which is characteristic of oil and gas firing.

Warm floors make healthful indoor playgrounds for children

Iron Fireman has the house luxuriously warm at getting-up time.

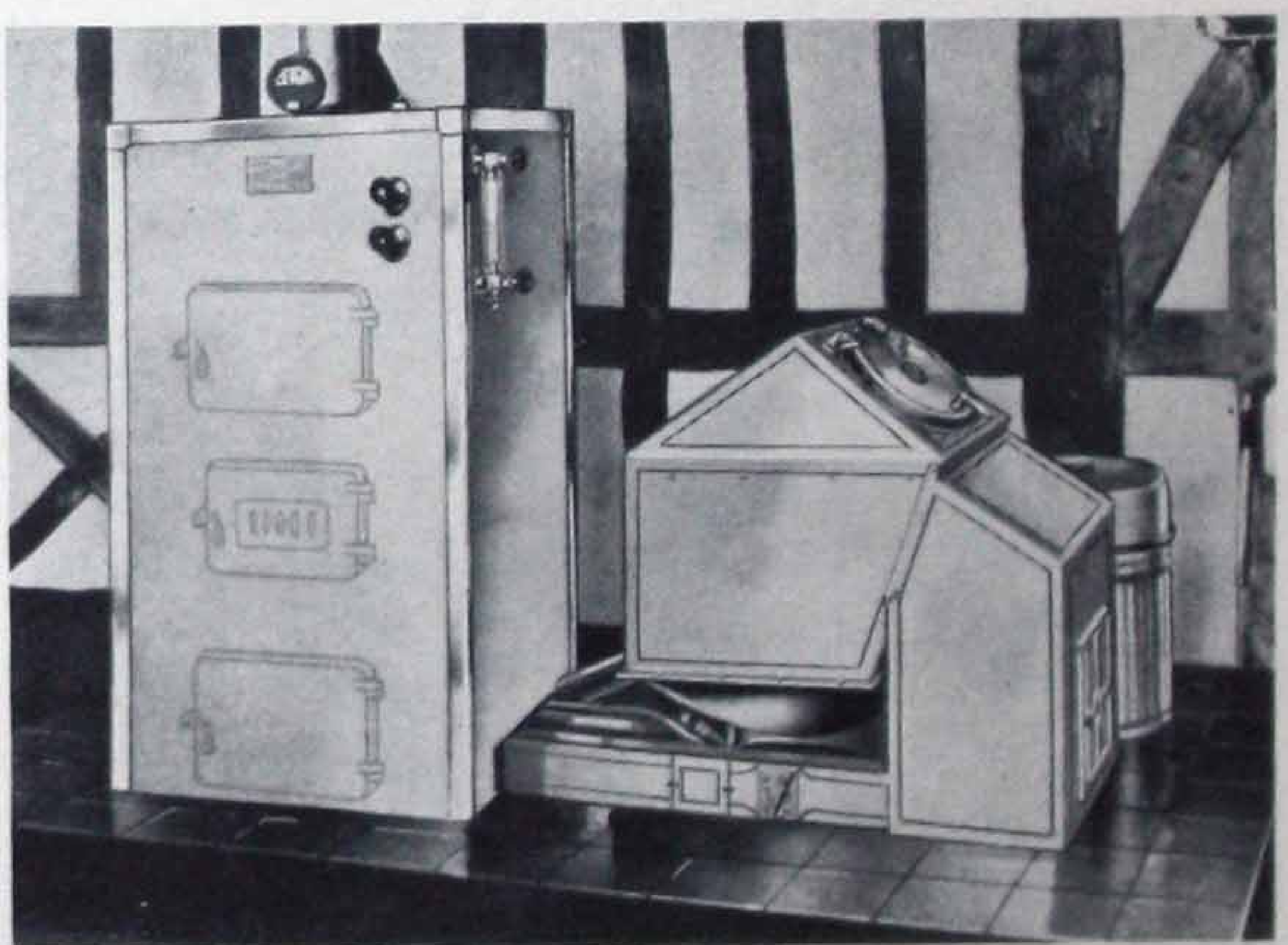
''Seven o'clock and all's well.'' Iron Fireman starts the fire in the morning *automatically*.

Freedom for other duties in an Iron Fireman home.

Another advantage of automatic coal firing is that the heating plant does not undergo the extremes of contraction and expansion which are caused by fires which are either full on or full off. Iron Fireman fuel bed is always giving off a certain amount of radiant warmth, which, since it is never off, soon permeates the whole house, warming even the timbers, walls, and floors of the building itself. The whole house is literally ''saturated'' with mellow warmth.

Iron Fireman heating is clean.

If you are an Iron Fireman user you give no thought to the furnace throughout the day. You merely live in your home and enjoy it. The temperature is just as dependable and uniform as you would possibly want it



The world's most popular automatic coal burner.

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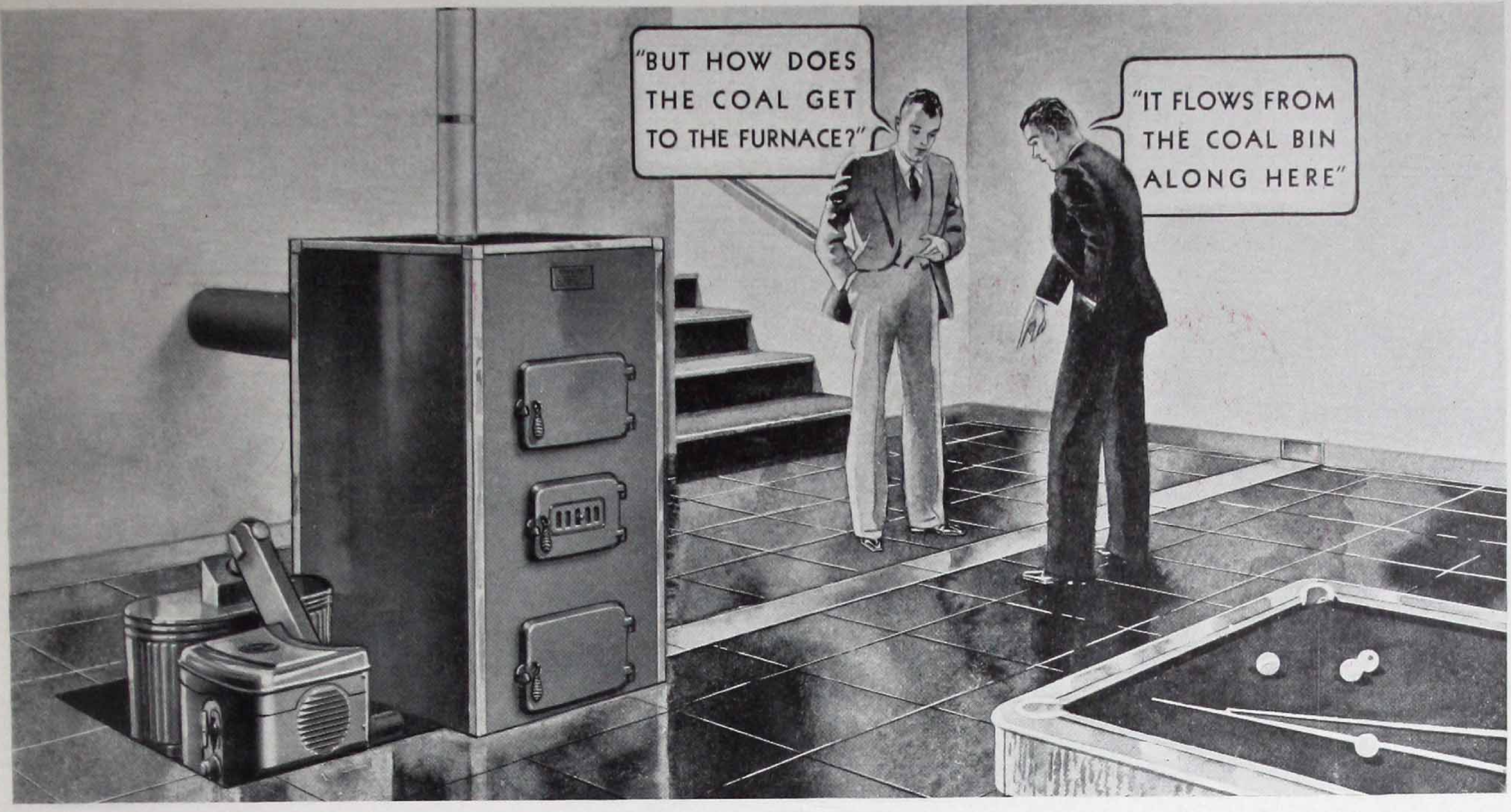

"BUT HOW DOES THE COAL GET TO THE FURNACE?"
"IT FLOWS FROM THE COAL BIN ALONG HERE"

The Iron Fireman Anthracite *Coal Flow* is clean, quiet and unobtrusive.

Iron Fireman Thermostat—silent watchman over home temperatures.

whether the outdoor weather is mild or a raging blizzard. Sudden changes of outdoor temperature are automatically taken care of by the Iron Fireman.

If you are going away for the day, Iron Fireman will keep your house warm just the same. If you do not wish to maintain day-time temperature while you are gone it is a simple matter to set the timing on your Syncrostat just as you do on your range oven and let the house warm up shortly before you return home.

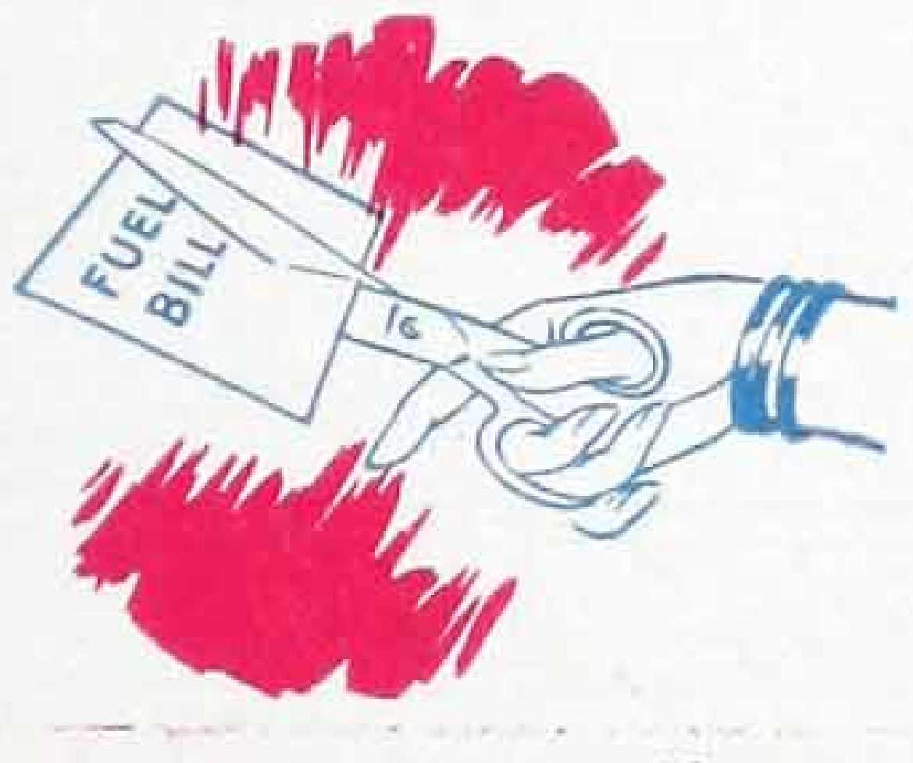
This Telechron Time Switch is an exclusive Iron Fireman development.

The welcoming warmth which greets you upon returning home takes on new meaning and increased enjoyment when coming home is not associated with an immediate trip to the basement. Many Iron Fireman owners who care for their own furnace room say that they enjoy the small chore of removing the ashes or changing the ash can at bedtime each evening. Others who delegate this task to a boy in the family say that they are glad their children have the character-building advantages of a few simple chores. Certainly any heating system should be looked at occasionally and the brief daily inspection given to your heating plant at the time you attend to your Iron Fireman coal burner is little enough attention to give any heating plant.

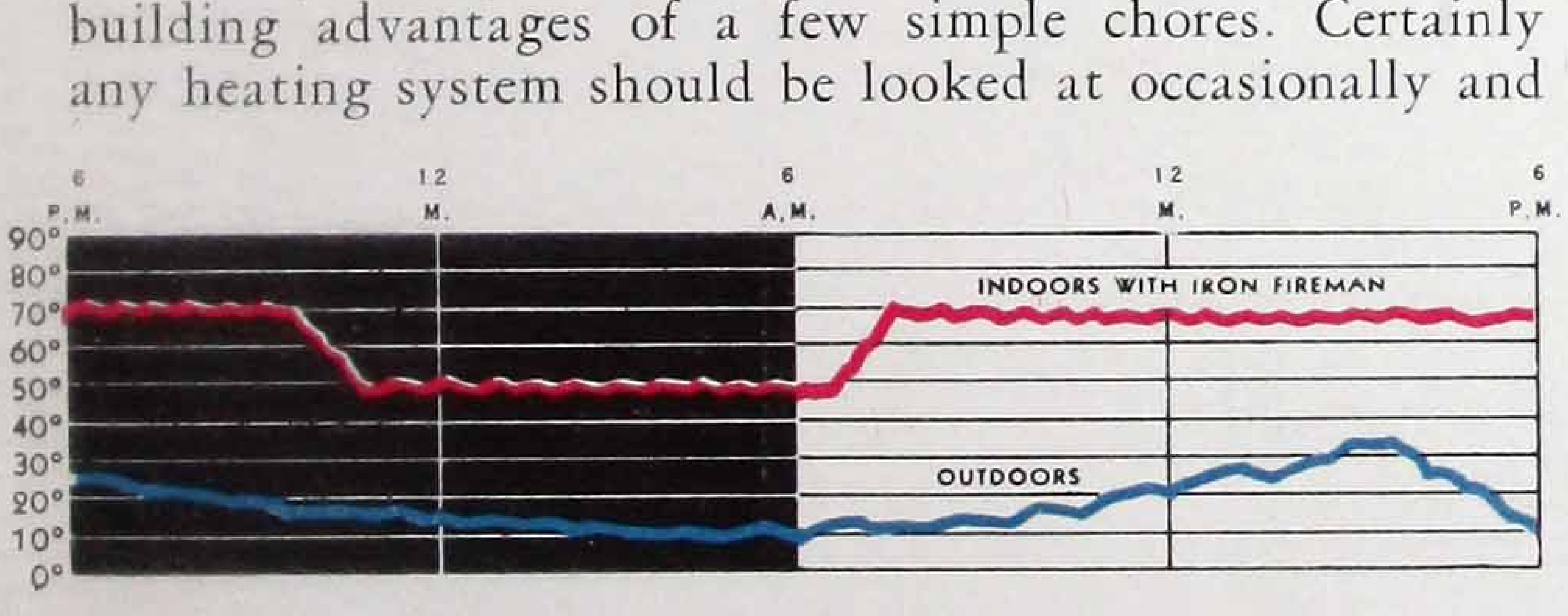
No weary basement trips to break into an evening of solid comfort.

Iron Fireman contributes savings to the household budget.

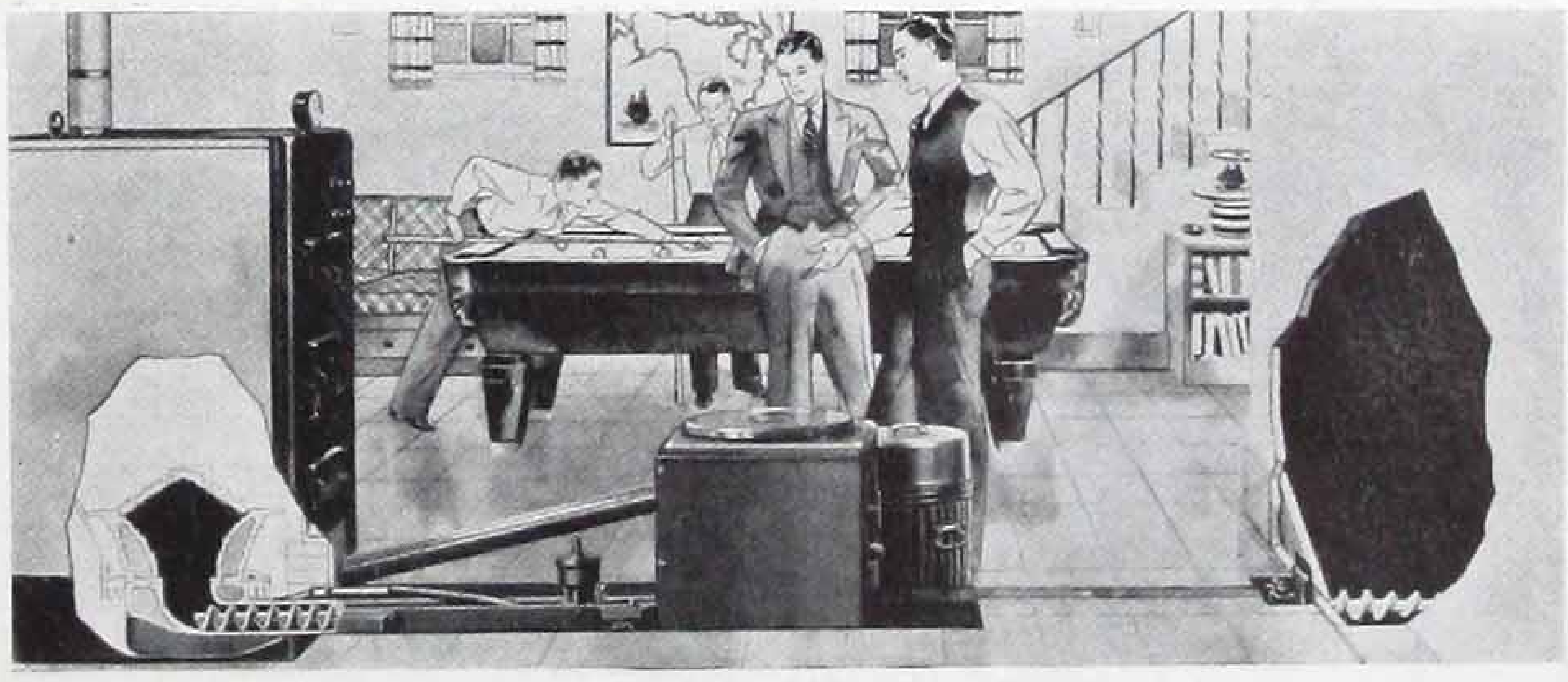
Anyone who has lived in a home with automatic heating is keenly conscious of the temperature variations in a home in which the heating plant is still hand-fired. This is especially true of those who are accustomed to Iron Fireman automatic heating. When you install an Iron Fireman you make one of the greatest possible contributions toward the comfort of your guests and their enjoyment of your hospitality. "Welcoming Warmth" is a characteristic of the home which is equipped with Iron Fireman automatic coal heating.



Save one-third to one-half or more of your present fuel bill.



Indoor temperatures are automatically controlled day and night regardless of weather outdoors.



The Iron Fireman Anthracite Coal Flow. This illustration shows the "ring drive" model, with the operating mechanism between the furnace and the coal bin.

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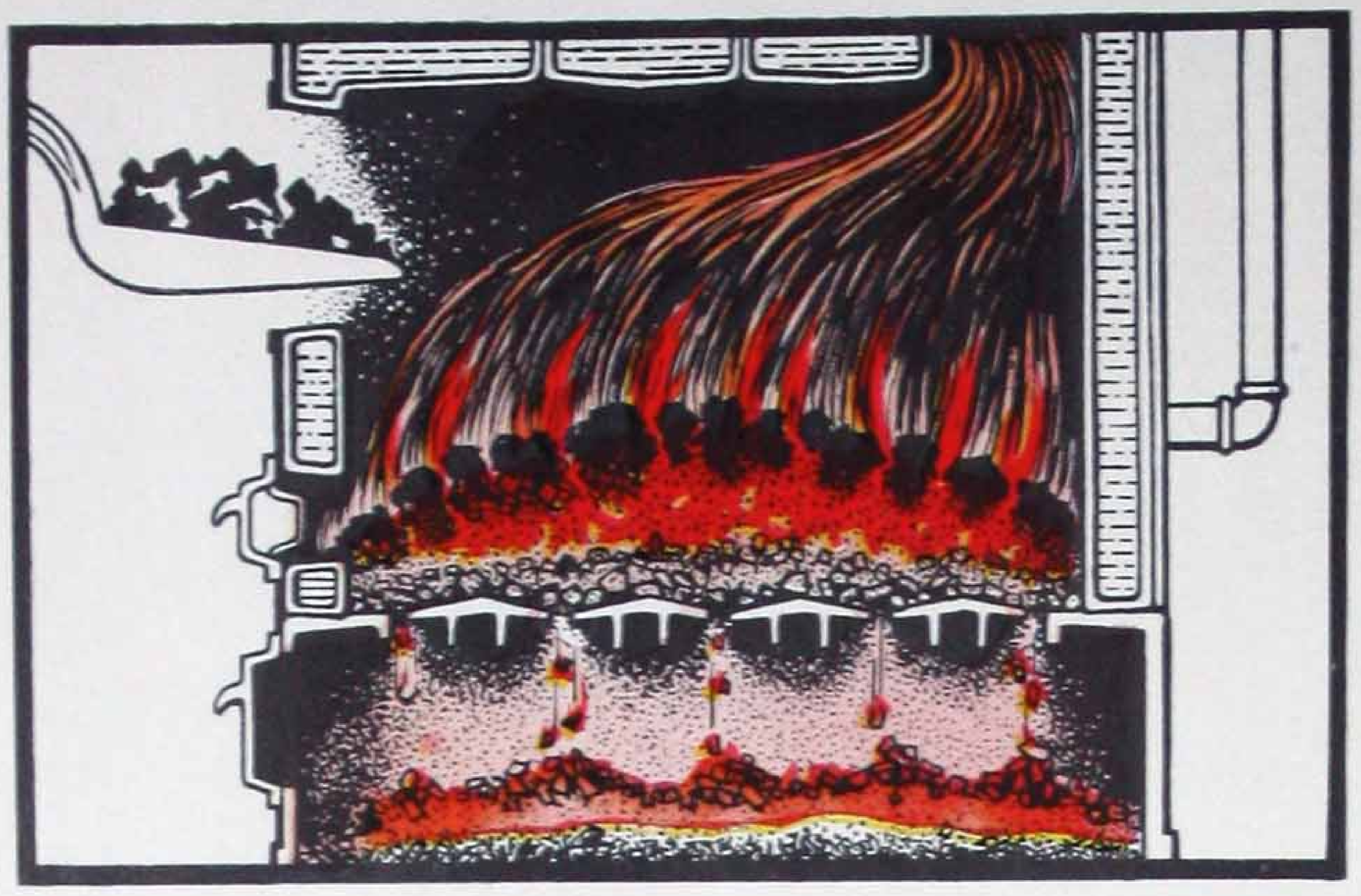
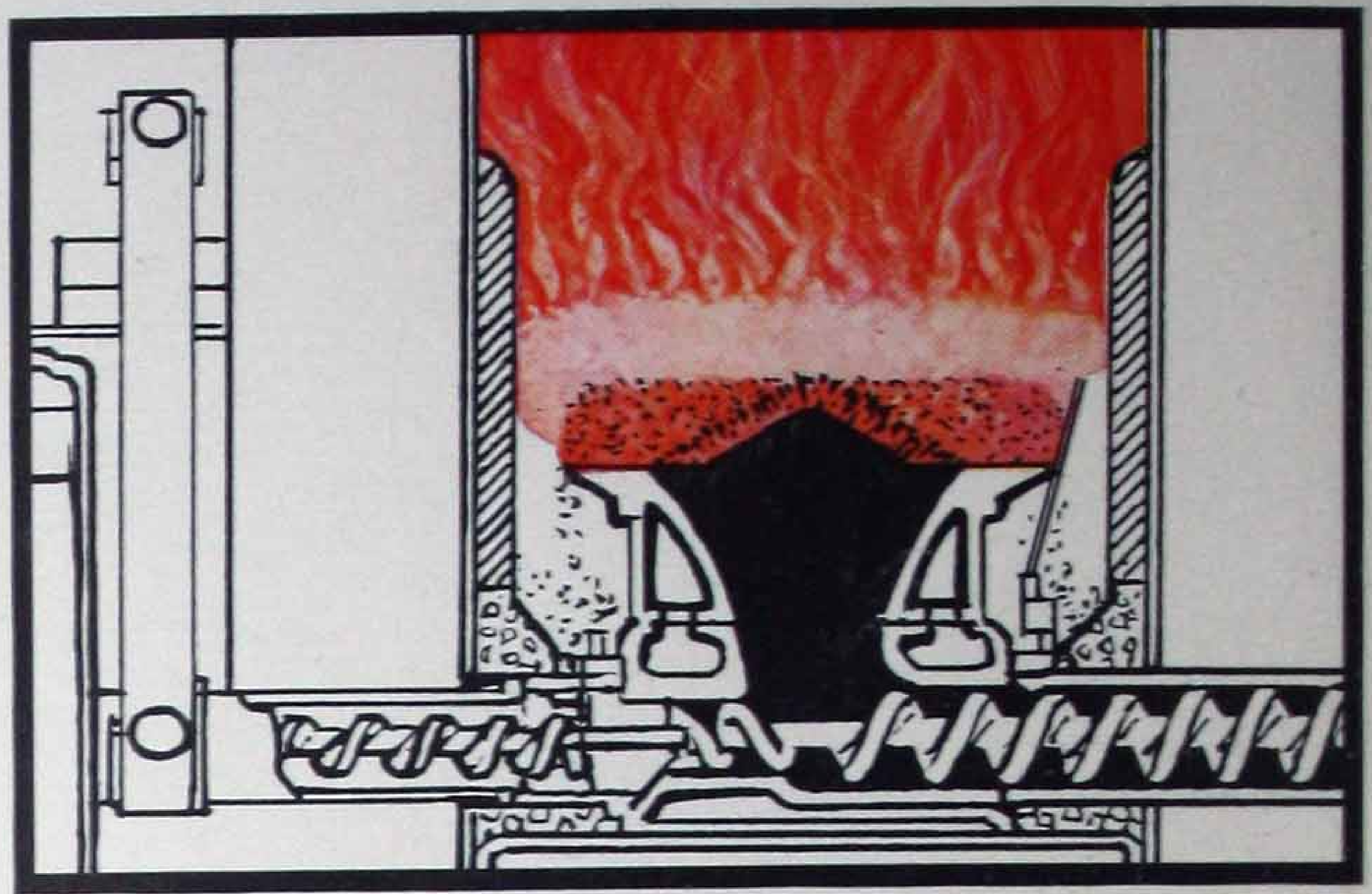
When Fired Scientifically by an Iron Fireman

Coal becomes the most Satisfactory fuel you can buy



In hand-firing, green coal is thrown on top of a hot bed of burning coal. Rarely is it evenly distributed. Fire doors have to be opened constantly, with resulting inrushes of cold air, cooling the boiler and causing back drafts. The hand stoked fire burns at a comparatively low temperature, 1700 to 2000 degrees Fahrenheit. No hand-fired boiler works at top efficiency.



The Iron Fireman slowly preheats the coal, bringing it up to the flash point as it nears the top of the fire bed. Volatile gases are liberated in the retort and are completely consumed. The control forced draft generates an intense heat, averaging 2400 to 2800 degrees, F. This consumes everything combustible in the coal. An Iron Fireman fired furnace is never choked with coal, nor is the fire allowed to die down. Automatic controls insure the exact fuel supply necessary to produce any desired degree of heat or boiler pressure.

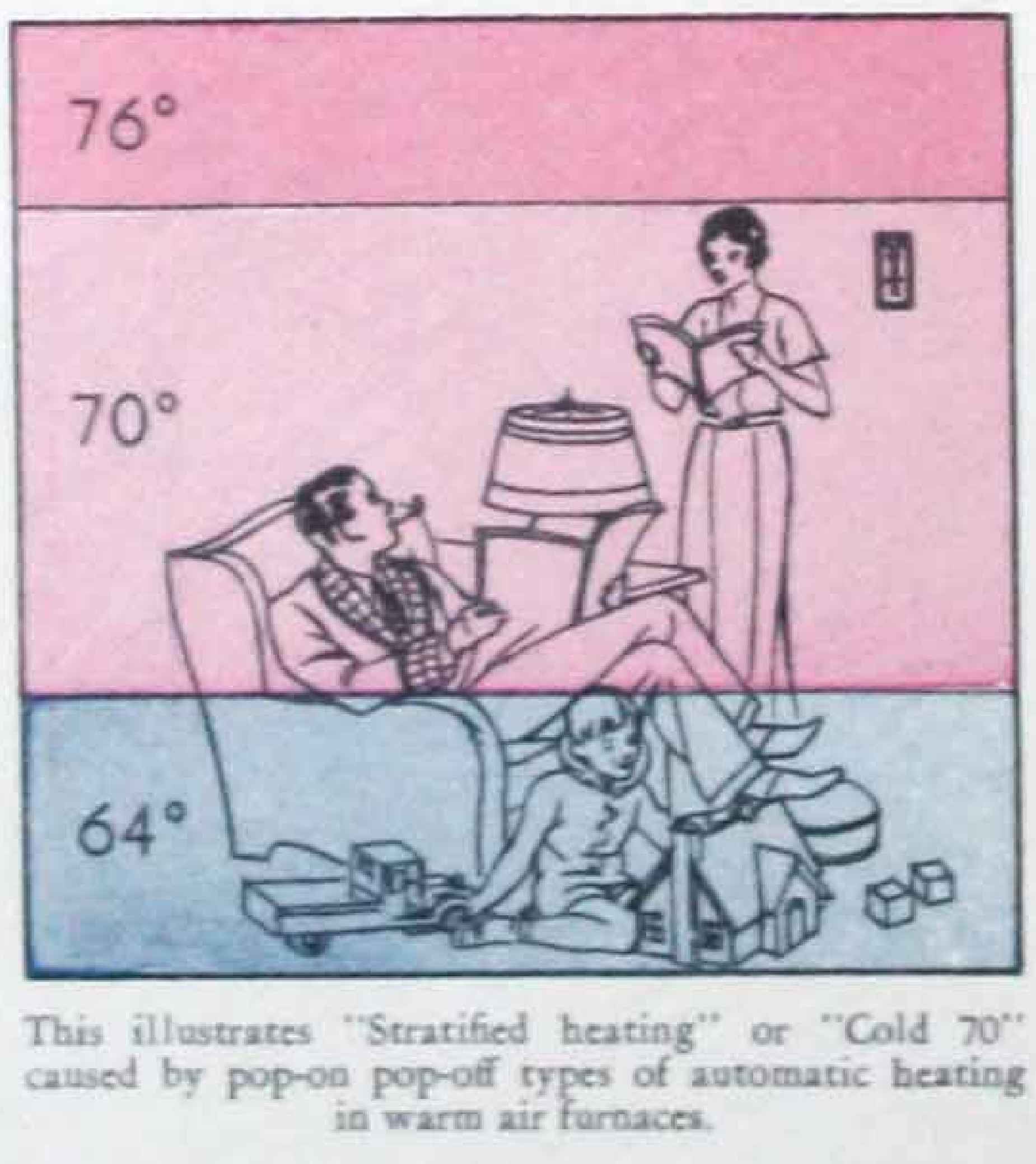
Compare Iron Fireman Forced Underfiring with the hand-firing method

Wrong—fuel fed on top of the fire.

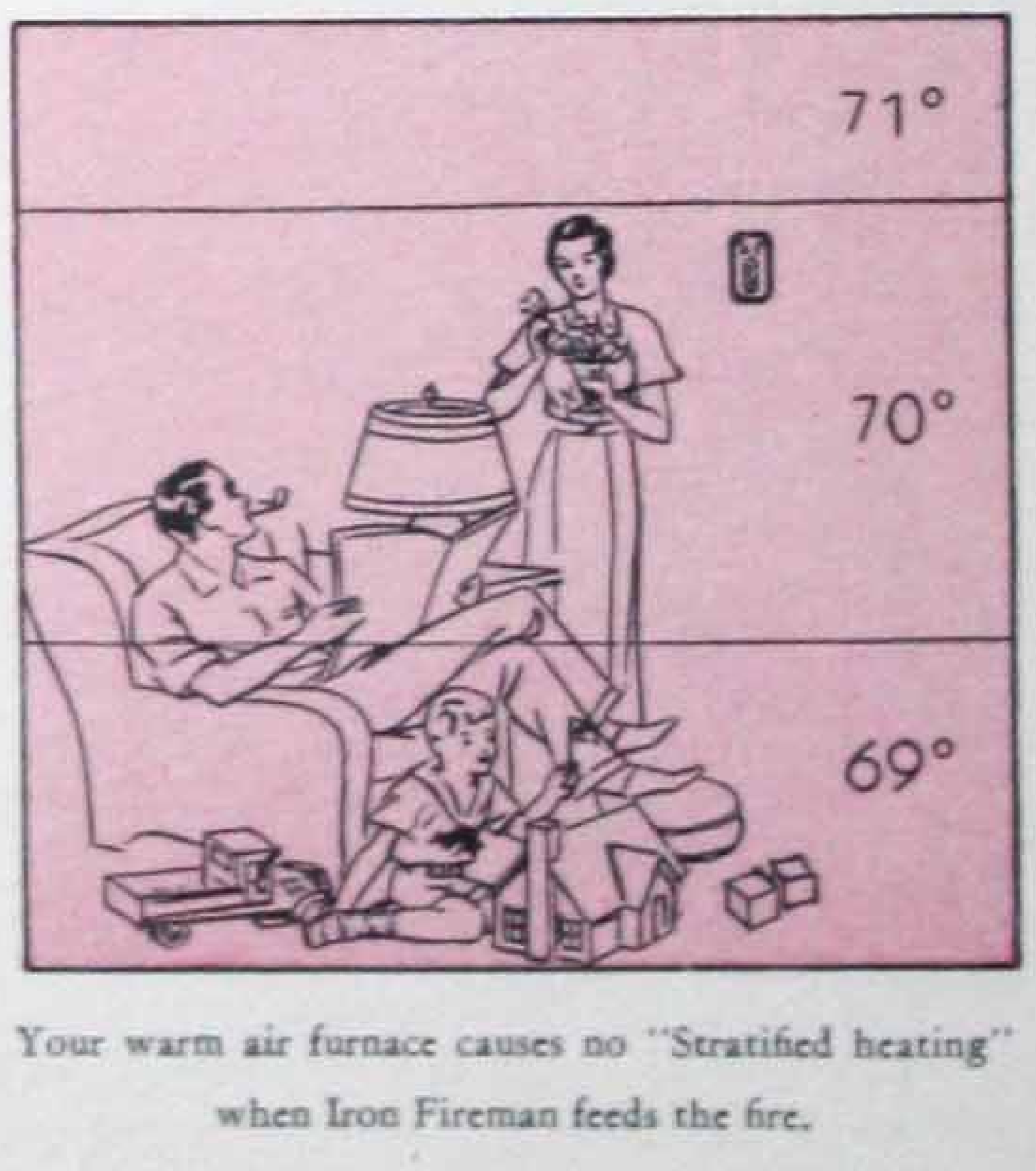
Right—fuel fed to the fire from below.

If you want to really understand the principle which enables Iron Fireman automatic coal burner to achieve its remarkable results, make this simple candle test for yourself. Light an ordinary candle. Then turn it upside down so that the fuel (melted wax) approaches the fire from above. See what happens—the flame is almost smothered; combustion is incomplete. The fuel that should be converted into heat and light is being distilled off in non-combustible form. Valuable heat units are wasted. This is what happens in a hand-fired fire where the fuel is shoveled on to the fire from above. You cook away the heat producing elements.

NO COLD 70 WITH IRON FIREMAN



This illustrates "Stratified heating" or "Cold 70" caused by pop-on pop-off types of automatic heating in warm air furnaces.



Your warm air furnace causes no "Stratified heating" when Iron Fireman feeds the fire.

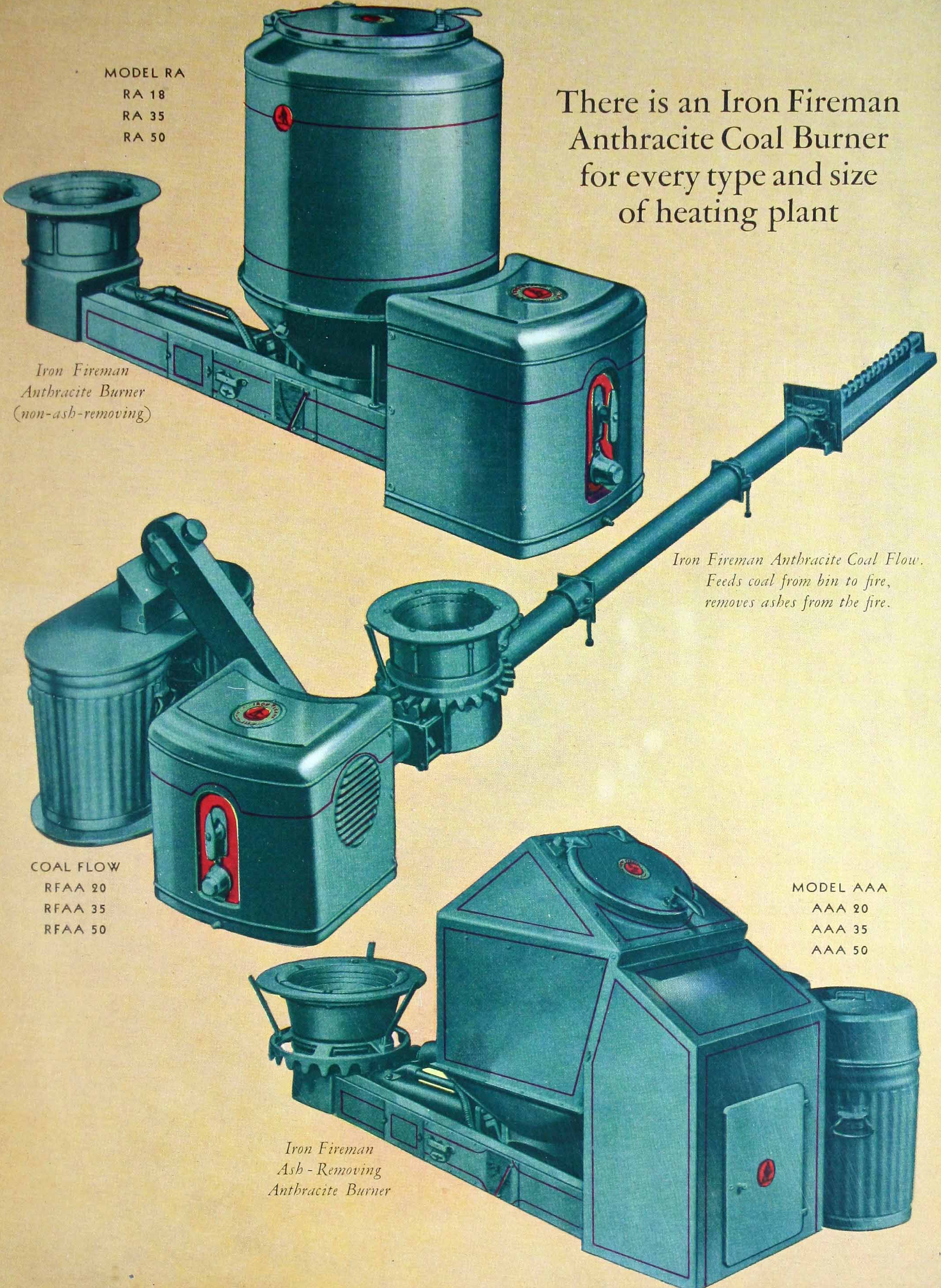
Now turn the candle right side up and see what happens. Quickly the flame clears itself. Fuel is drawn into the flame just as it is needed. There is a bright, hot flame, and no waste. There you see exactly the difference between Iron Fireman firing and the old-fashioned hand firing method.

Is it any wonder that coal got a bad reputation, when for so many generations it was fired in this primitive way?

How far do you think you would get with oil or gas if they had to be burned in such a crude fashion! But, since Iron Fireman made coal an automatic fuel, the story is entirely different.

Study the illustrations at the top of this page, and read the explanations under them. Then you will see how Iron Fireman not only cuts fuel costs 15% to 50% and even more, but you will also see why Iron Fireman coal firing is actually the superior of other forms of heating in the steady, gentle way in which it gives off its heat.

There is an Iron Fireman Anthracite Coal Burner for every type and size of heating plant



MODEL RA
RA 18
RA 35
RA 50

Iron Fireman Anthracite Burner (non-ash-removing)

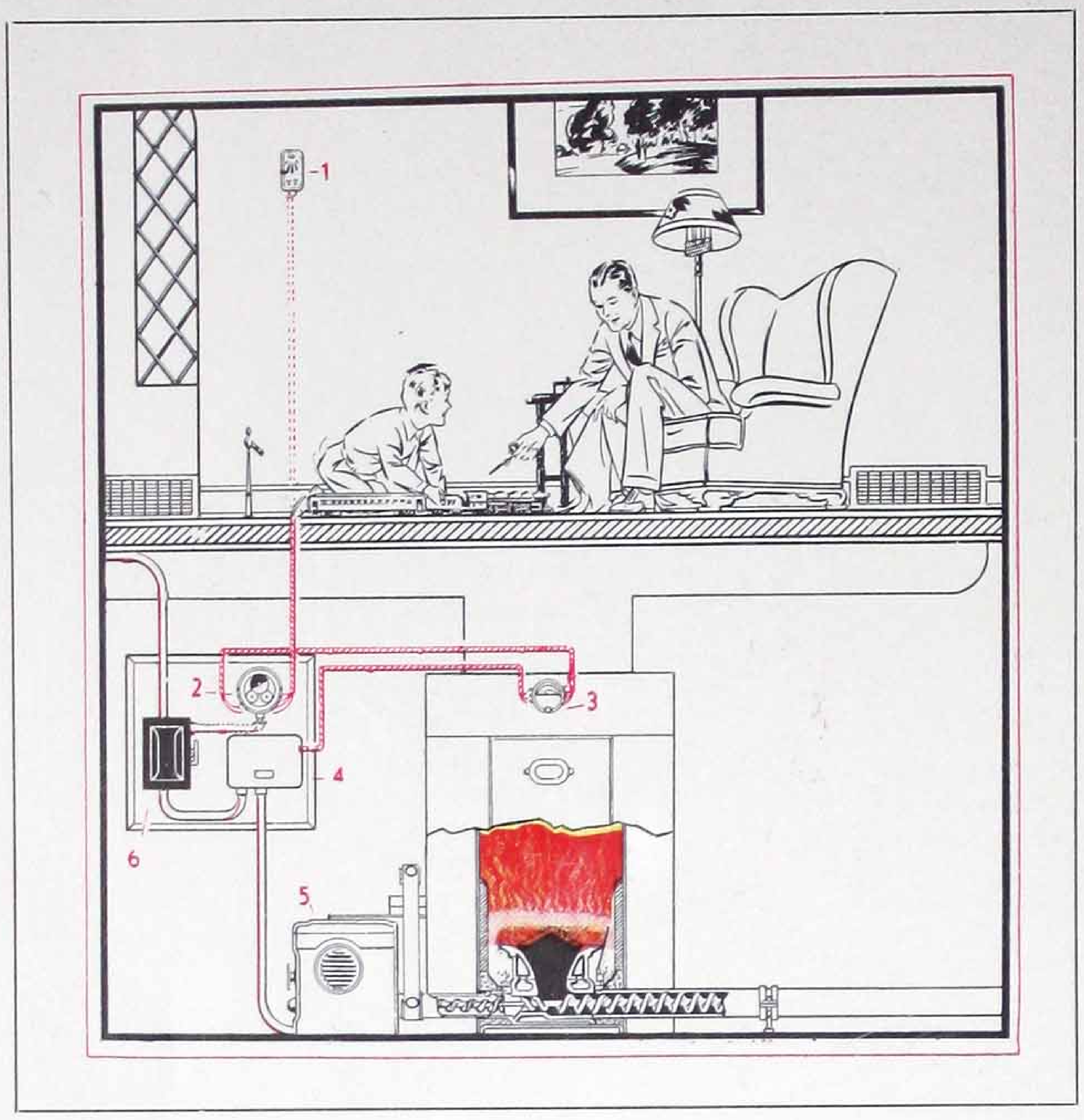
Iron Fireman Anthracite Coal Flow. Feeds coal from bin to fire, removes ashes from the fire.

COAL FLOW
RFAA 20
RFAA 35
RFAA 50

MODEL AAA
AAA 20
AAA 35
AAA 50

Iron Fireman Ash-Removing Anthracite Burner

Iron Fireman is known the world over
as the machine that made coal an automatic fuel



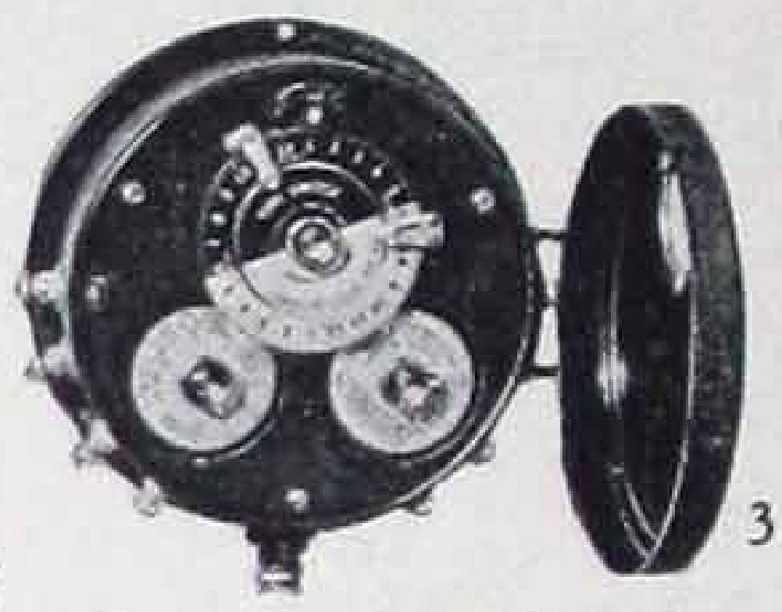
An Iron Fireman Coal Flow Installation
1. Duplex (night and day) Thermostat; 2. Time Switch; 3. Furnace or boiler regulator; 4. Motorized Relay; 5. Motor and Transmission; 6. Line Switch.

In buying an automatic coal burner it is important that the purchaser take into consideration the type of manufacturing organization to which he must look for service, repairs, and the continuance of responsibility for the performance of the burner itself.

The Iron Fireman organization makes automatic coal burners only. It has grown to its present size and leadership in its field through success in the invention, design, production and sale of automatic coal burners. It was first to recognize the two-fold opportunity of improved firing results and greater firing economy, in the field of automatic coal firing. This company was also the first to successfully apply these advantages, and develop a nation-wide organization to insure Iron Fireman owners of the best possible results. Its owners enjoy far the lowest costs, when figured correctly over a period of years. Many thousands of Iron Fireman owners throughout North America and in many foreign countries are now enjoying these benefits of steady, even firing, automatically controlled. They are successfully using low cost fuels, and obtaining firing efficiencies so high that their savings over methods that they formerly used amount to many millions of dollars each year.

Iron Fireman burners are of automotive type construction throughout, i.e., they are built in the same type of plant and with the same care and precision which is used in the manufacture of a fine automobile. All parts are thoroughly standardized. Volume production methods and precision standards are used throughout with constant checking, testing and inspection against gauges which are themselves checked against Johanssen gauges at regular intervals. The result is a machine that has long life and smooth, quiet, trouble-free operation—a machine which by the year costs far less than any similar equipment.

1. Night—Day Thermostat.

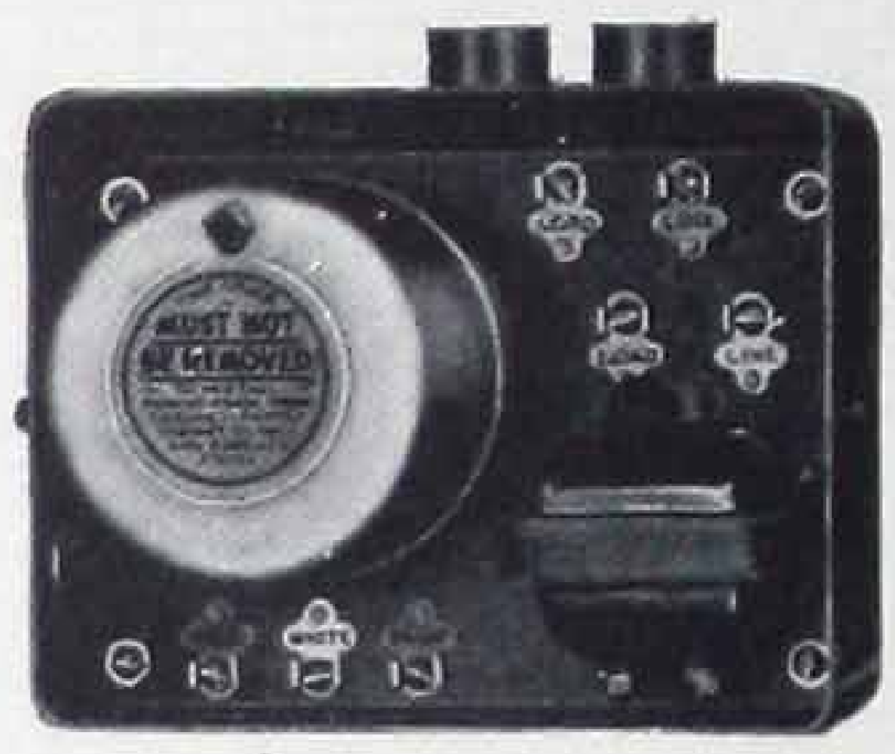


2. Syncrostat Time Switch.

3. Water Temperature Control.

3. Steam Pressure Control.

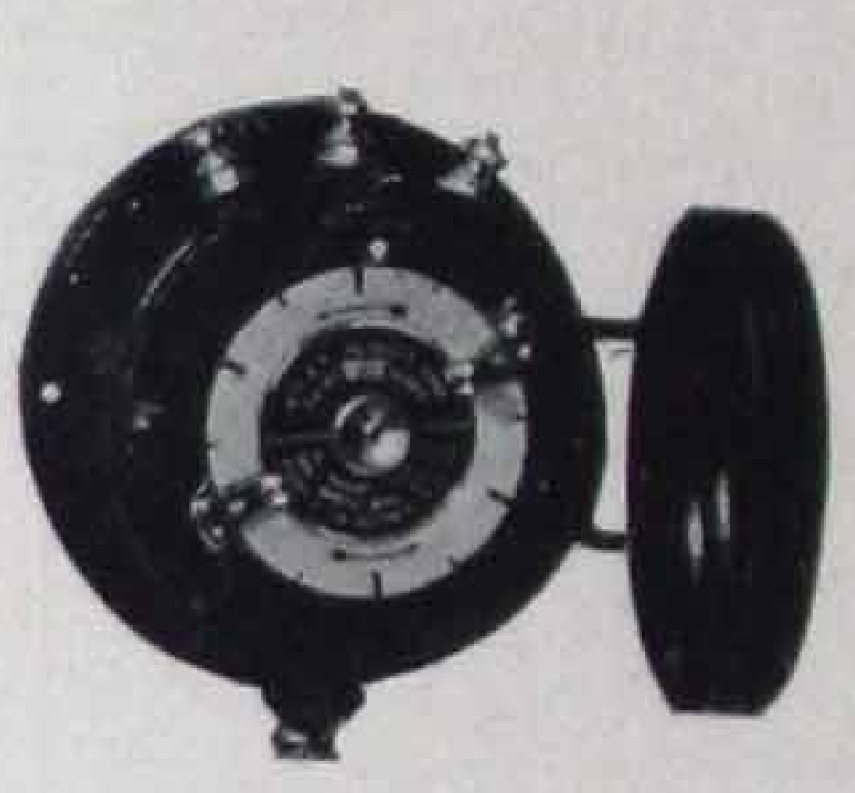
3. Warm Air Control.



4. Motor Driven Relay Switch.

6. Plain Thermostat.

7. Clock Thermostat.



8. Timetactor.

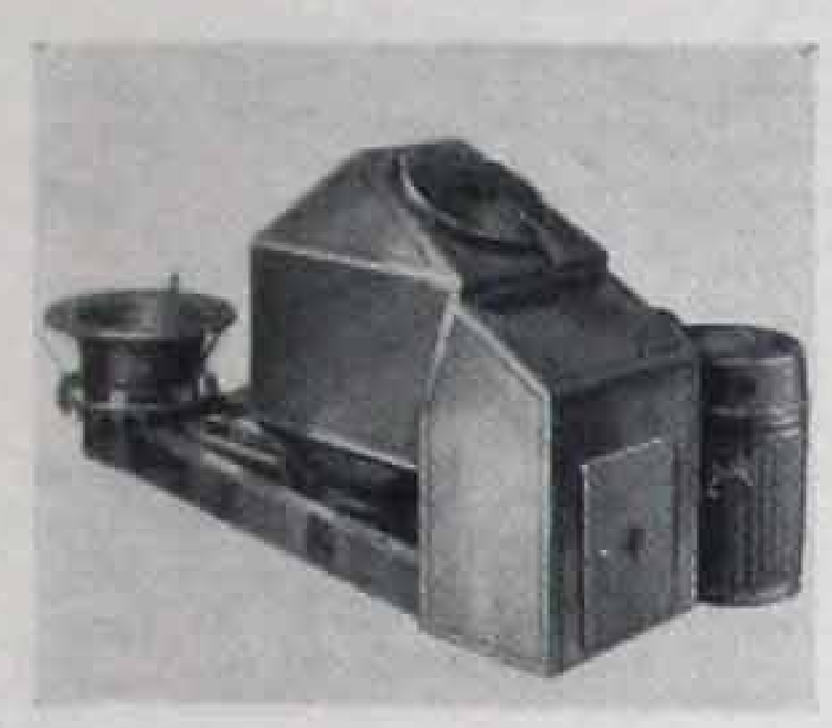
The Iron Fireman Manufacturing Company recognizes that its continued success rests upon the satisfaction of its customers. To this end it spares no efforts in providing the best product which can be produced, at the lowest possible cost. Its officials believe that a sound business operation is just as important to the customer as to the company itself, and that the strength of the maker is the best insurance that the Iron Fireman will never become an orphan; that its users will have many years of satisfactory, trouble-free service and that their costs per year will be far less than with any other similar equipment they can buy. Reference to the company's rating in Dun and Bradstreet's or to its listing in Poor's or Moody's Manual, will indicate the ability of this company to insure continuing service to its customers.

Iron Fireman leadership is based on the firm foundation of mechanical excellence

1. PRESSED STEEL CONSTRUCTION

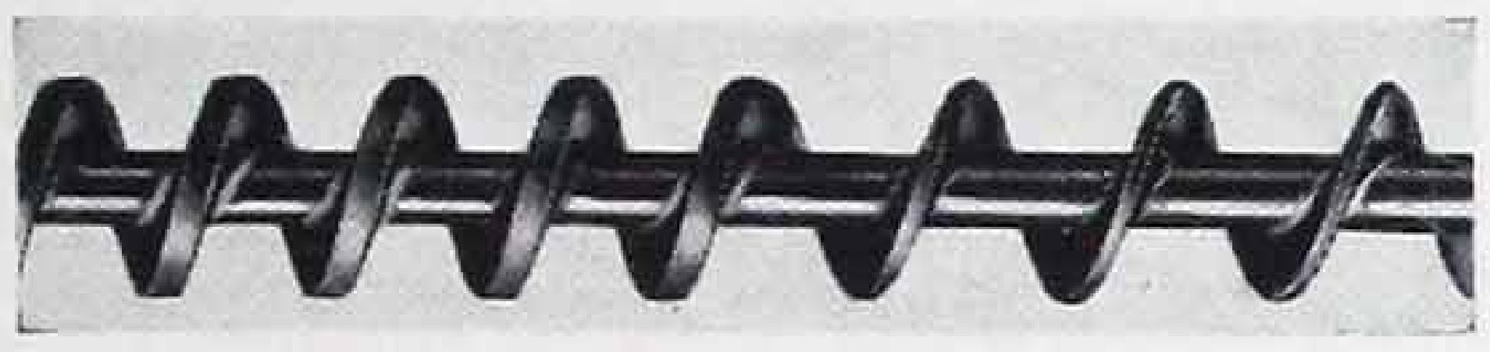
Pressed steel construction is the accepted standard for automatic coal burners as it is for refrigerators, automobiles, bridges and Pullman cars. Construction is strong, light, durable and crack-proof, largely because of the inherent advantages of this uniform material and the method of fabrication. Iron Fireman utilizes this construction whenever possible.

2. BALANCED DESIGN



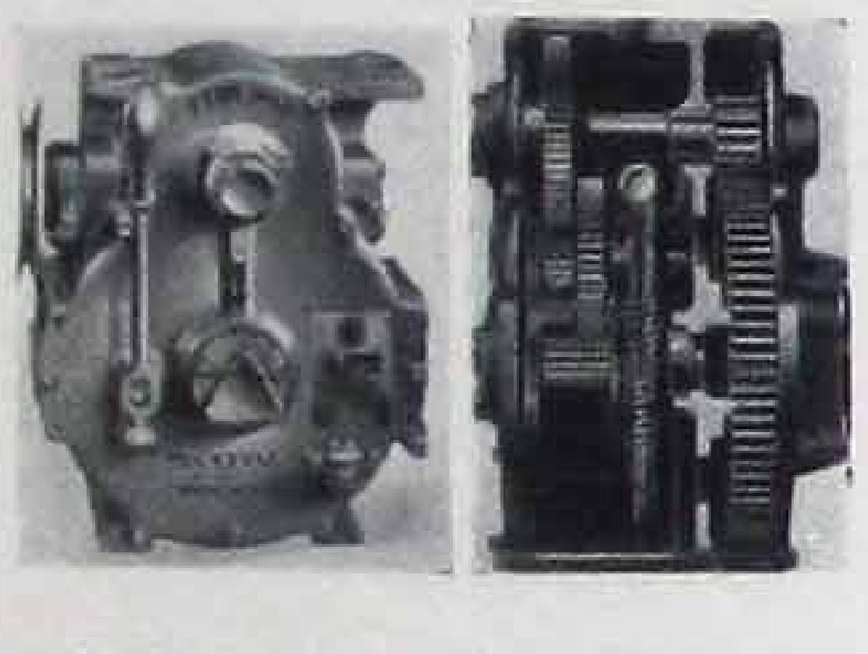
The success of any machine is based upon the successful performance of every one of its parts. Like a chain, no machine is stronger than its weakest link. Every unit of the Iron Fireman is not only balanced and perfected in itself, but is also balanced in its relation to the other parts, and so makes the complete stoker a perfectly balanced operating unit.

3. PATENTED SCREW FEED



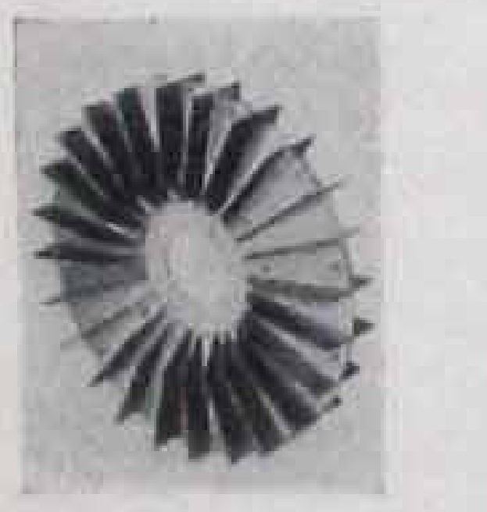
The Iron Fireman conveyor screw is made from a special heat resisting alloy steel, developed for this particular use. Its design and process of manufacture are covered by Iron Fireman patents.

4. SILENT TRANSMISSION



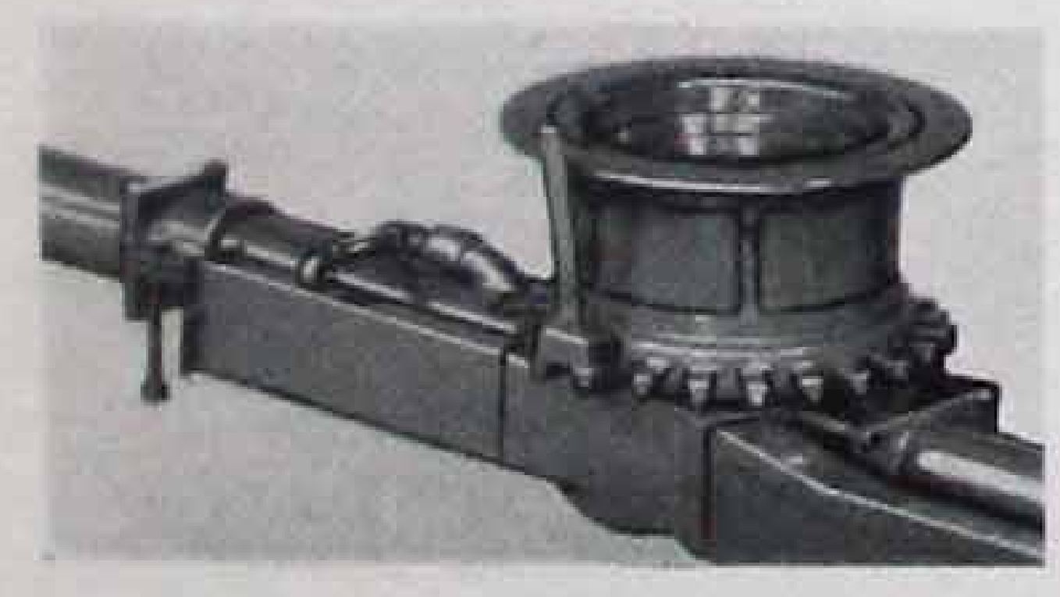
The Iron Fireman transmission is an exclusive Iron Fireman development. This transmission drives the feed worm at a constant speed which in turn feeds the coal to the fire in a slow, steady stream at the required rate for proper burning. As a result, a steady, non-agitated fire is obtained. This transmission has three speeds and three neutrals. The gears can be shifted while the stoker is in operation; in fact more easily than when the stoker is idle, and it is impossible to strip the gears while shifting. All the gears operate in a bath of lubricating oil and the unit is most quiet. In design, materials, and precision of construction, the Iron Fireman transmission is like that of a fine automobile.

5. RADIAL VANE FAN



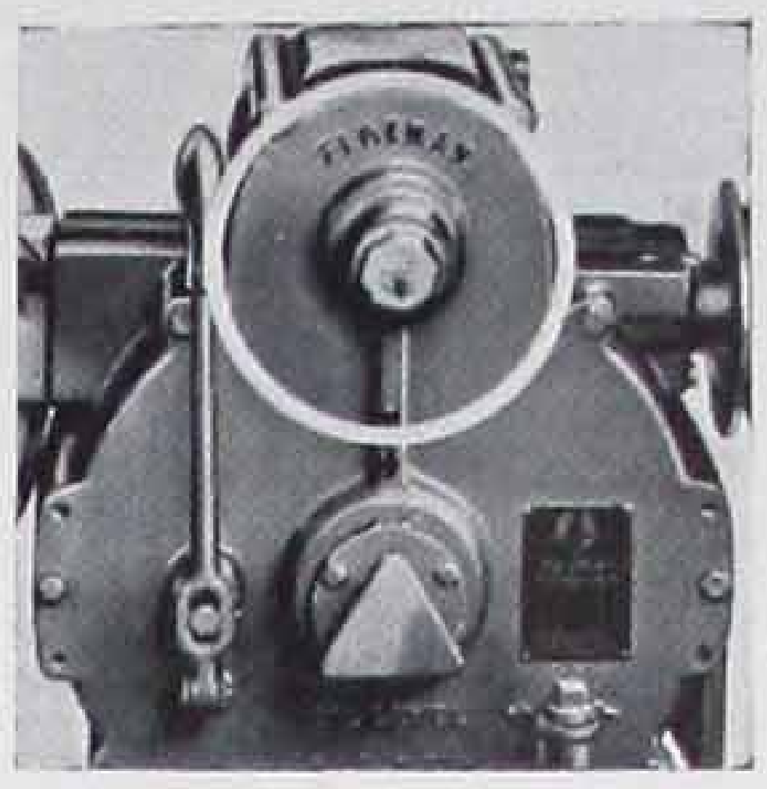
Air is supplied to the fire by a highly efficient radial vane balanced rotor fan, especially designed by Iron Fireman engineers and produced in the company's own plant. It is accurately balanced to eliminate vibration and is compact, durable and quiet in operation. The fan is inclosed in the pressed steel fan housing designed and made by Iron Fireman exclusively for Iron Fireman fans.

6. SCIENTIFIC RETORT DESIGN



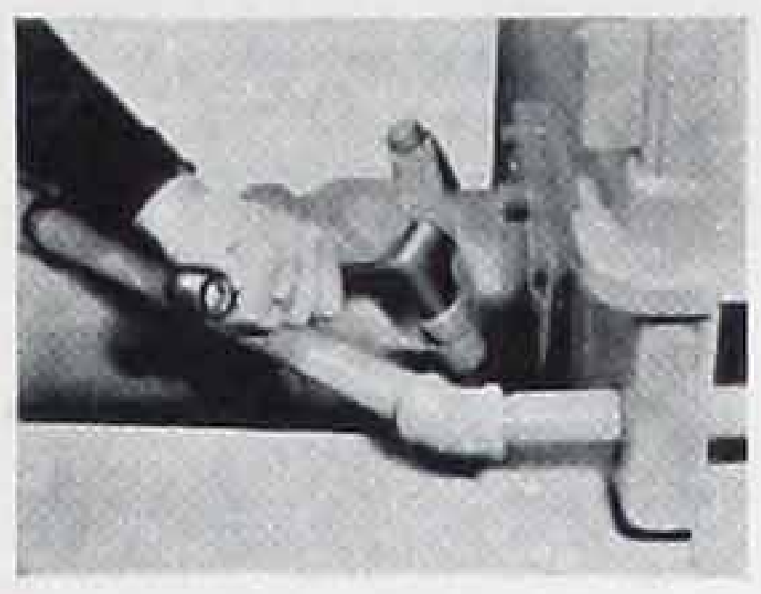
The Iron Fireman retort is designed so that coal and air meet in just the right proportion for proper combustion. This perfected Iron Fireman retort is the result of many years of development work by Iron Fireman engineers in the laboratories and in the field.

7. OVERLOAD SAFETY



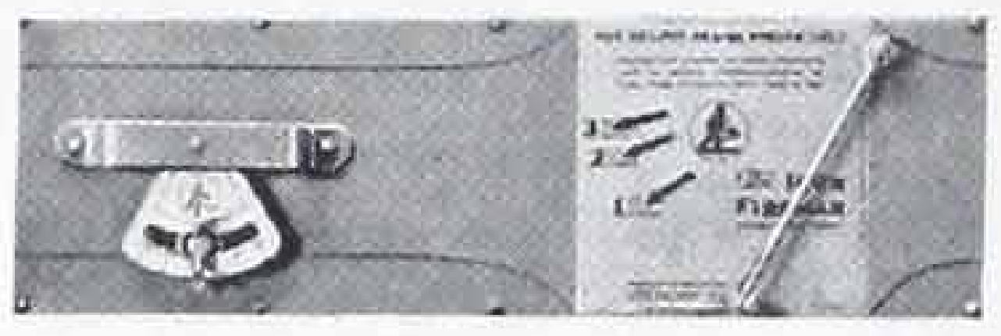
Each Iron Fireman is provided with an overload safety shear pin, just as every electrical devise is provided with a fuse plug. This safety device stands ever on guard to protect the burner from serious breakage in case foreign matter in the coal should cause a jam in the feed tube.

8. WORM HOUSING CLEAN-OUT



Foreign matter which may find its way into the coal and obstruct the operation of the stoker is led up to the worm housing cleanout, from which position it can be readily removed without damage to the stoker or delay to the operation. The worm housing cleanout is standard equipment on all sizes of Iron Fireman automatic coal burners. Its use may never be required, but the very presence of this feature in Iron Fireman construction means an additional safety device standing guard over stoker operation.

9. AIR FLOW INDICATOR AND AUTOMATIC BANKING DAMPER

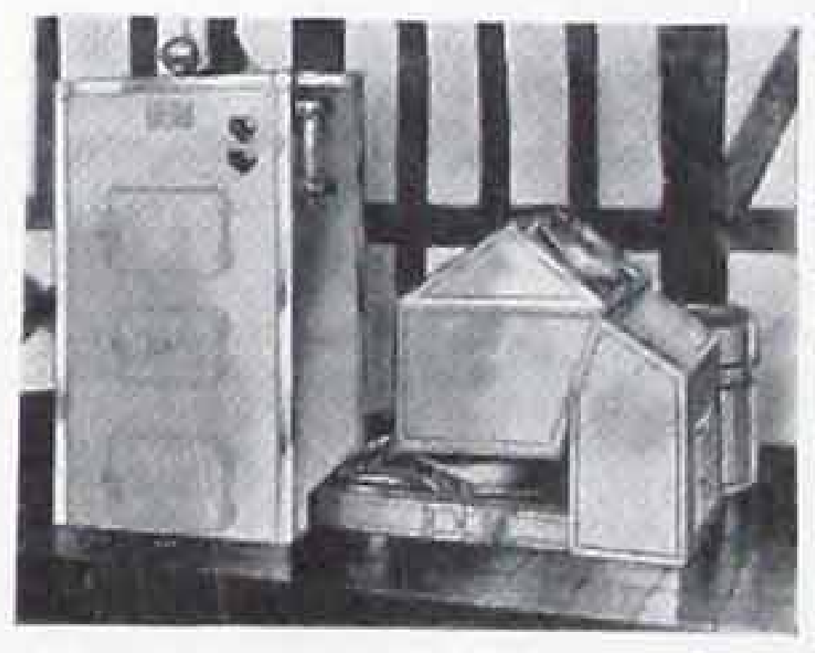


Shows the relative volume of air passing through the duct to the fuel bed, and indicates the correct air volume for each coal feed. . . Also serves as an automatic fire banking damper when the stoker is idle.

10. IRON FIREMAN SYNCROSTAT

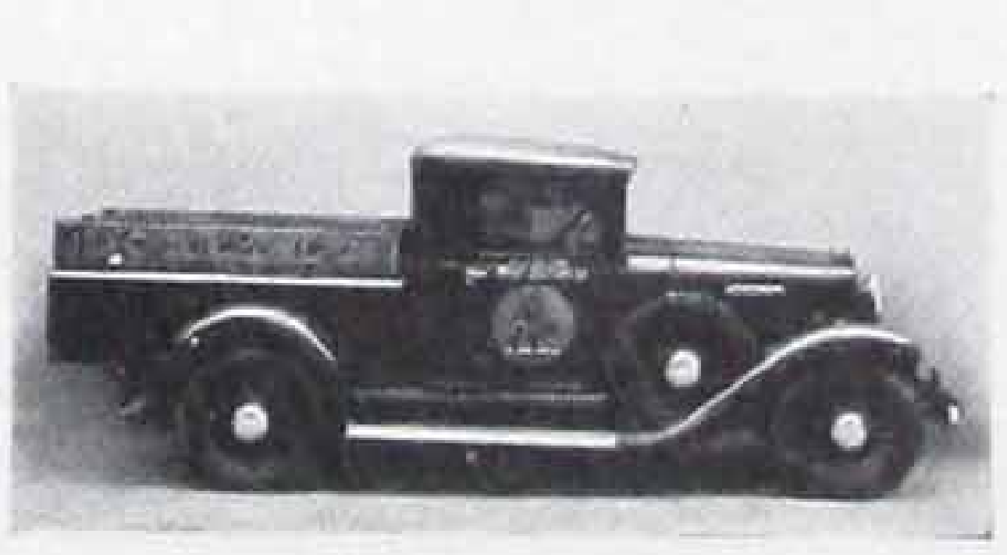
This device, developed by Iron Fireman, is a telechron electric clock mechanism which automatically cuts down the temperature at night and raises it in the morning. In connection with the night and day thermostat it starts and stops the Iron Fireman according to room temperature, and automatically operates it at stated intervals during mild weather to keep the fire alive.

11. EXCLUSIVE INSTALLATION TECHNIQUE



The installation of a burner is in many ways as important to successful operation as is the construction of the burner itself. Iron Fireman has developed an installation technique which is used by authorized Iron Fireman dealers and which embodies new information regarding the principles of coal firing.

12. IRON FIREMAN SERVICE



Your authorized Iron Fireman dealer is a responsible business man, ever alert to see that Iron Fireman owners get good service. Back of him is a nation-wide factory organization of service engineers.

What Iron Fireman means to father

1. He gets up in the morning in a warm house.
2. Five minutes a day puts his heating plant in operation for 24 hours without further attention.
3. Does not need to run to furnace room when he comes home for dinner or before retiring.
4. Less ash—no kindling—no fires going out.
5. Most economical heating money can buy.

What Iron Fireman means to mother

1. Never has to shovel coal.
2. Can leave home without thinking of heating plant.
3. Comfortable when guests are visiting.
4. No worry as to whether house is too cold or too hot for children at any time.
5. Cleanliness.
6. Can buy new clothes with money saved on fuel.

What Iron Fireman means to the children

1. Better health.
2. Prevention of winter colds.
3. Greater enjoyment of home through increased comfort.

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